

Application Number: 10/659,245

Reply To Office Action of SEPTEMBER 1, 2005**Amendments to the Claims**

1. (Currently Amended) A needle for delivery of a substance into the skin of a patient, having a skin engaging surface, comprising:
a shaft having a wall defining a longitudinally extending bore, a first end that is open to receive the substance in the bore, a second end adapted to penetrate skin of a subject, and a penetration length extending from the skin engaging surface to a distal tip of the second end of less than about 4.5 mm; and
at least one side port extending through the wall and continuously open for communicating with the bore, the side port being arranged about 0.025 mm to about 3 mm from the skin engaging surface and said side port has a diameter which is adapted for flow at pressures less than 5 psi, wherein when the needle is fully penetrated into the skin, the skin engaging surface contacts the skin, and the substance exits the side port under pressure directly into the skin.
2. (Original) The needle of claim 1, wherein the second end comprises a sharpened tip.
3. (Original) The needle of claim 2, wherein the tip is beveled.
4. (Original) The needle of claim 3, wherein the side port is arranged on a side of the shaft opposite of the bevel.
5. (Original) The needle of claim 1, wherein the second end includes an end port communicating with the bore.
6. (Original) The needle of claim 5, wherein the side port and end port are adapted for bi-phasic delivery of a substance.

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7. (Original) The needle of claim 1, wherein the side port is arranged on the shaft for epidermal delivery of a substance.
8. (Original) The needle of claim 1, wherein the side port is arranged on the shaft for intradermal delivery of a substance.
9. (Previously Presented) The needle of claim 1, wherein the side port is adapted to be about 0.5 mm to about 1.5 mm below a surface of the skin when the needle is inserted into a subject.

Claims 10-49 Canceled

50. (New) A device for intradermal delivery of a substance into the skin comprising the needle of Claim 1 and a reservoir in fluid communication with the needle.
51. (New) A needle as claimed in claim 1, wherein the outlet is a plurality of outlets.
52. (New) The needle of claim 1, wherein the needle is adapted to penetrate the skin substantially perpendicular to the surface of the skin and when the needle is fully penetrated into the skin, the skin engaging surface is substantially parallel the skin.
53. (New) The needle of claim 1, wherein the wall and the bore correspond to the dimensions of a 30 gauge needle.
54. (New) The needle of claim 1, wherein the wall and the bore correspond to the dimensions of a 31 gauge needle.
55. (New) The needle of claim 1, wherein the wall and the bore correspond to the dimensions of a 34 gauge needle.

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56. (New) The needle of claim 1 wherein about 200 to 250 micro liters of said substance are delivered through said side port.
57. (New) A needle for delivery of a substance into the skin of a patient, having a skin engaging surface, comprising:
a shaft having a wall defining a longitudinally extending bore, a first end that is open to receive the substance in the bore, a second end adapted to penetrate skin of a subject, and a penetration length extending from the skin engaging surface to a distal tip of the second end of less than about 4.5 mm, wherein the dimensions of said wall and said bore correspond to a needle of between 30 gauge and 34 gauge; and
at least one side port extending through the wall and continuously open for communicating with the bore, the side port being arranged about 0.5 mm to about 1.5 mm from the skin engaging surface and said side port has a diameter which is adapted for flow at pressures less than 5 psi, wherein when the needle is fully penetrated into the skin, the skin engaging surface contacts the skin, and the substance exits the side port under pressure directly into the skin.
58. (New) The needle of claim 57, wherein the second end includes an end port communicating with the bore.
59. (New) The needle of claim 58, wherein the side port and end port are adapted for bi-phasic delivery of a substance.